Montana Board of Oil and Gas Conservation
Environmental Assessment

Operator: Petro Hunt, LLC
Well Name/Number: Austby 19-53-2B-34-1H
Location: NE NW Section 2 T19N R53E
County: Dawson **, MT; Field (or Wildcat)** W/C

Air Quality

(possible concerns)
Long drilling time: 25-35 days drilling time for a single lateral horizontal Red River Formation test.
Unusually deep drilling (high horsepower rig): No, large triple drilling rig for a 14,656'MD/11,073' TVD horizontal Red River Formation Test.
Possible H2S gas production: Yes possible.
In/near Class I air quality area: No Class I air quality area.
Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under 75-2-211.

Mitigation:

- X Air quality permit (AQB review)
- __ Gas plants/pipelines available for sour gas
- __ Special equipment/procedures requirements
- __ Other:_____

Comments: No special concerns, adequate surface casing, 2000' to be set and cemented back to surface with proper BOP stack should mitigate any concerns. Triple rig to drill a 14,656'MD/11,073' TVD horizontal Red River Formation Test.

Water Quality

(possible concerns)
Salt/oil based mud: Use freshwater and freshwater mud system on surface hole. Invert oil based mud for mainhole from the base of surface casing to horizontal TD.
High water table: No high water table expected.
Surface drainage leads to live water: No, nearest drainage is an unnamed ephemeral tributary drainage to Thirteen Mile Creek an ephemeral drainage, about 5/8 of a mile to the northeast from this location. There should not be any discharge of fluids off this location.
Water well contamination: No, closest water wells nearby are about ½ to 5/8 of a mile to the northeast from this well location. Depth of this irrigation and stock water wells are 130'. Surface hole will be drilled with freshwater and steel surface casing set and cemented from 2000' to protect surface waters and the Fox Hill aquifer.
Porous/permeable soils: No, sandy clay soils.
Class I stream drainage: No, Class I stream drainages in the area.

Mitigation:

- X Lined reserve pit
- X Adequate surface casing
- __ Berms/dykes, re-routed drainage
- __ Closed mud system
- __ Off-site disposal of solids/liquids (in approved facility)
- __ Other: _____

Comments: 2000' of surface casing cemented to surface adequate to protect freshwater zones. Also, fresh water mud systems to be used on surface hole.

Soils/Vegetation/Land Use

(possible concerns)
Steam crossings: No stream crossings anticipated.
High erosion potential: No, small cut, up to 5.3' and small fill, up to 2.8', required.
Loss of soil productivity: No, location will be restored after drilling, if nonproductive. If productive unused portion of drillsite will be reclaimed.
Unusually large wellsite: Large, 440'X350' location size required.
Damage to improvements: Slight, surface use is cultivated fields.
Conflict with existing land use/values: Slight.

Mitigation
__ Avoid improvements (topographic tolerance)
__ Exception location requested
_X_ Stockpile topsoil
__ Stream Crossing Permit (other agency review)
_X_ Reclaim unused part of wellsite if productive
__ Special construction methods to enhance reclamation
_X_ Other: Requires DEQ General Permit for Storm Water Discharge Associated with Construction Activity, under ARM 17.30.1102(28).

Comments: Access will be over existing county road, #428. Will build about 455' of new access road off the county road into this location. Pits will be lined. Oil based invert drilling fluid will be recycled. Completion fluids will be hauled to a permitted commercial Class II disposal. Solids will be allowed to dry in the lined reserve pit and then backfilled. Topsoil will be spread and seeded to vegetation per landowner specification. No special concerns

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Health Hazards/Noise

(possible concerns)
Proximity to public facilities/residences: Closest residences are about ¼ of a mile to the northeast and about ¾ of a mile to the east from this wellsite.
Possibility of H2S: Yes possible.
Size of rig/length of drilling time: Triple drilling rig 25 to 35 days drilling time.

Mitigation:
_X_ Proper BOP equipment
__ Topographic sound barriers
__ H2S contingency and/or evacuation plan
__ Special equipment/procedures requirements
__ Other:_____

Comments: No concerns. Proper BOP stack and adequate surface casing should be able to control any problems that occur. Distance to nearest residence and H2S contingency and/or evacuation plan sufficient to mitigate any concerns for H2S.

Wildlife/recreation

(possible concerns)
Proximity to sensitive wildlife areas (DFWP identified): None identified.

Proximity to recreation sites: None identified.
Creation of new access to wildlife habitat: No
Conflict with game range/refuge management: No
Threatened or endangered Species: Species identified as threatened or endangered by USFWS are the Pallid Sturgeon, Interior Lease Tern and the Whooping Crane. Species of concern is the Greater Sage Grouse.

Mitigation:

__ Avoidance (topographic tolerance/exception)
__ Other agency review (DFWP, federal agencies, DSL)
__ Screening/fencing of pits, drillsite
__ Other: .

Comments: Private cultivated surface lands not close to live water. No concerns.

Historical/Cultural/Paleontological

(possible concerns)

Proximity to known sites: None identified

Mitigation

__ avoidance (topographic tolerance, location exception)
__ other agency review (SHPO, DSL, federal agencies)
__ Other:

Comments: Private cultivated surface lands. No concerns.

Social/Economic

(possible concerns)

__ Substantial effect on tax base
__ Create demand for new governmental services
__ Population increase or relocation

Comments: No concerns.

Remarks or Special Concerns for this site

Well is a 14,656'MD/11,073' TVD horizontal Red River Formation Test. .

Summary: Evaluation of Impacts and Cumulative effects

No long term impact expected. Some short term impacts will occur.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): /s/ Steven Sasaki
(title:) Chief Field Inspector
Date: August 4, 2010

Other Persons Contacted:

_____
_Montana Bureau of Mines and Geology, GWIC website
_____
(Name and Agency)
_Dawson County water wells_____
(subject discussed)
August 4, 2010
(date)

US Fish and Wildlife, Region 6 website
(Name and Agency)
ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA COUNTIES, Dawson County
(subject discussed)

_August 4, 2010_____
(date)

If location was inspected before permit approval:
Inspection date: _____
Inspector: _____
Others present during inspection: _____